



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

lty

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,338	01/09/2001	Michael Fabry	02103-399001 / AABOSS29	8138
26161	7590	02/10/2005	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			GRAHAM, ANDREW R	
			ART UNIT	PAPER NUMBER
			2644	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/757,338

Applicant(s)

FABRY, MICHAEL

Examiner

Andrew Graham

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/11/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2644

**DETAILED ACTION**

***Response to Declaration***

1. The declaration of Michael Fabry filed on August 6, 2094 under 37 CFR 1.131 is sufficient to overcome the applied reference of Kowaki.

In light of this declaration, applicant's request for withdrawal of the rejection related to the reference of Kowaki in the last Office is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the references of Hatley et al (USPN 5113447) and Greenburger (USPN 5870484).

***Drawings***

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings fail to meet a number of requirements of 37 CFR 1.85, including at least sections (1), (p)(1), (p)(3), and (q). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 1/7/2005 was filed after the mailing date of the Final Office action

Art Unit: 2644

on 2/2/2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatley et al (USPN 5113447) in view of Greenberger (USPN 5870484). "Hatley et al" will be referred to as "Hatley".

Hatley discloses a system for optimizing audio imaging in an automotive listening environment.

Regarding Claim 1, Hatley teaches:

An audio system (200) for a vehicle (172) (col. 5, lines 35-60; Figure 2), said vehicle comprising a first passenger location (space for passengers, such as driver in Figure 2; col 5, lines 61-66)

and said audio system comprising:

a first directional audio channel (left channel, L, or alternatively, center channel, C) signal source ( $L_{IN}$  input port or output of 102 for summed signal; Figures 1A and 1B; col. 3, lines 46-66; col. 4, lines 14-43);

Art Unit: 2644

a surround audio channel signal source (side channel difference signal or ambience signal, output of 152, Figure 1B; col. 4, lines 44-63);

a first electroacoustical transducer (168) coupled to said first directional audio signal source ( $L$  or  $C$ , via 112' and 162; Figures 1B,2; col. 5, lines 3-13 and 43-51) and to said surround audio channel source (output of 152, via 154, 156, and summer 112'; col. 4, lines 44-68; col. 5, lines 1-13), situated behind said first passenger location ("rear deck", interpreted to be space adjacent to rear windshield in vehicle, such as illustrated in Greenberger, discussed below),

said first electroacoustical transducer (168) constructed and arranged (connected to  $L_{out}$  via amplifier 162; Figure 2) to radiate sound waves corresponding to audio signals from said first directional audio channel signal source ( $L_{IN}$  or output of 102) and corresponding to audio signals from said surround audio channel signal source (output of 152) (such signals are summed to form  $L_{out}$  signal and output through amplifier (162) to speaker (168); col. 5, lines 3-13 and 43-51); and

a second electroacoustical transducer (174) coupled to said first directional audio signal source ( $L_{IN}$  input port or output of 102, as noted above; coupled to  $L_I$  via 102,104,106,108, and 164, or alternatively, coupled to sum signal, output of 102, via 104,106,108, and 164; col. 3, lines 46-66; col. 5, lines 43-51) situated forward of said first electroacoustical transducer (168) ("dashboard"; col. 5, lines 53-57),

Art Unit: 2644

said second electroacoustical transducer constructed and arranged to radiate sound waves corresponding to audio signals from said first directional audio channel signal source (connected to  $C_{out}$ , via amplifier 164; col. 5, lines 43-51;  $C_{out}$  "corresponds" to left channel source as half of signal is provided to produce center channel signal;  $C_{out}$  "corresponds" to center channel source as output signal is weighed summation signal to be played back and perceived from a forward location).

Regarding the passengers in the vehicle, Hatley notes that vehicles may include a driver and one or more passengers (col. 2, lines 5-11). As noted above, Hatley teaches that transducers (168,170) may be located in the rear deck of the automobile (col. 5, lines 47-51). However, neither seating arrangements for "or more" passengers nor the passenger-relevant location of a rear deck are clearly detailed or illustrated by Hatley.

Accordingly, Hatley does not clearly specify:

- a second passenger location, said second passenger location situated behind said first passenger location,

Greenberger teaches a loudspeaker array with particular radiation patterns, including several embodiments of such an invention that are applicable to an automobile (Figures 21a-e).

Specifically regarding Claim 1, Greenberger teaches:

- An audio system for a vehicle (Figure 21e; col. 89, lines 41-44),

Art Unit: 2644

- said vehicle comprising a second passenger location ("rear seat", col. 90, lines 36-62; Figure 21e)
- said second passenger location situated behind said first passenger location ("rear seat" behind "front seat", by definition and as illustrated in Figure 21e; col. 90, lines 51-62 discuss both front and rear seat passengers)

In the context of an automobile, the "rear package shelf" of Greenberger is interpreted as equivalent to the "rear deck" of Hatley, located at least behind a front passenger location. It is further noted that Greenberger teaches the use of left and right channel speakers with front center and left and right rear speakers (col. 92, lines 7-37).

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to implement the audio system of Hatley into an automobile with a rear passenger seat, as is disclosed for the automobile audio system of Greenberger. The motivation behind such a modification would have been that such an additional seating location would have provided space inside the vehicle for passengers in addition to the driver and a passenger adjacent to the driver.

Regarding Claim 2, Hatley teaches:

a first audio signal scaling device (106) coupling (via 110, 112', 162) said directional audio channel source ( $L_{IN}$  or output of 102) and said first electroacoustical transducer (168) (col. 3, lines 58-68; col. 4, lines 1-9; col. 5, lines 43-51; Figures 1B, 2),

Art Unit: 2644

and a second audio signal scaling device (156) coupling (via 112', 162) said surround audio channel source (output of 152) and said first electroacoustical transducer (168) (col. 4, lines 65-68).

Regarding Claim 3, Hatley teaches:

a second directional audio channel source (C, output of 102, interpreting  $L_{IN}$  as first audio signal source for parent claim), coupled (via 104, 106, 110, 112', 162) to said first electroacoustical transducer (168) (col. 3, lines 46-66; col. 5, lines 43-51; Figures 1B, 2)

Regarding Claim 4, Hatley teaches:

said second directional audio channel source (output of 102) is a center channel source (col. 3, lines 46-62; col. 4, lines 14-29)

Regarding Claim 5, Hatley in view of Greenberger teaches:

a third electroacoustical transducer (170), situated behind said second passenger location (transducer 170 disclosed by Hatley as possibly located on rear deck of car (col. 5, lines 47-51), Greenberger illustrates rear shelf speaker placement behind rear passenger location (col. 90, lines 38-40; col. 92, lines 57-60), coupled to said surround channel source (output of 152, via 154, 156, 158, 114'; col. 4, lines 54-68; col. 5, lines 1-18 of Hatley),

said third electroacoustical transducer (170 of Hatley) constructed and arranged (connected via amplifier 166 of Hatley) for radiating sound waves corresponding to audio signals from said surround audio channel signal source (output of 152 of Hatley) (speaker 170 of Hatley outputs right side difference signal, which



Art Unit: 2644

"corresponds" to output of 152 as an inverted version; col. 5, lines 13-18 and 43-51 of Hatley).

Regarding Claim 6, please refer to the above rejection of the similar limitations of Claims 1 and 3, particularly noting the movement of the audio signal along the paths between the components cited therein.

Regarding Claim 7, please refer to the above rejection of the similar limitations of Claim 3, noting the movement of the audio signals along the paths between components cited therein.

Regarding Claim 8, please refer to the above rejection of the similar limitations of Claim 2, noting the function of the components cited therein.

Regarding Claim 9, please refer to the above rejection of the similar limitations of Claim 5, noting the movement of the signals along the signal paths between the components cited therein.

Regarding Claim 10, please refer to the above rejection of the similar limitations of Claims 1 and 5, noting the function and connections of the components and signals cited therein.

Regarding Claim 11, please refer to the above rejection of the similar limitations of Claims 1, 3, and 5, noting the movement of the signals along the signal paths between the components cited therein.

### **Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Graham

Art Unit: 2644

whose telephone number is 703-308-6729. The examiner can normally be reached on Monday-Friday, 8:30 AM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703)305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**



Andrew Graham

Examiner  
A.U. 2644

ag  
February 7, 2005